

REMARKS

Claims 1, 4, 12, and 16 were rejected as being anticipated by Pauluth and claim 17 was rejected as being obvious in view of Pauluth. Claims 1 and 4 have been canceled without prejudice to presenting them in a continuation application. Applicants are focusing on claims 12, 16, and 17.

With respect to the rejection of the presently pending claims, Applicants cannot agree that Pauluth either anticipates or renders obvious claims 12, 16, or 17. In particular, Pauluth does not teach or suggest an organic-inorganic hybrid proton-conductive material containing an organic-inorganic hybrid material and a proton source which imparts proton conductivity into the organic-inorganic hybrid material. Indeed, neither formula I of Pauluth nor any of the examples show or describe the inclusion of the required proton source.

Moreover, Pauluth seeks to achieve a uniform, stable homotropic orientation of the liquid crystal phase on the surface. Prior to Applicant's invention, it was thought that if a proton source were to be added to a composition for an organic-inorganic hybrid membrane containing a liquid crystal organosilicon compound, such as the compound of formula I of Pauluth, the molecular orientation of the membrane would be rearranged. Thus, prior to Applicant's invention one would not have been led to incorporate a proton source in a material containing the compound of formula I of Pauluth.

While Pauluth does disclose that its compound of formula I can be added as a doping substance to a liquid crystal dielectric for liquid crystal display elements that can

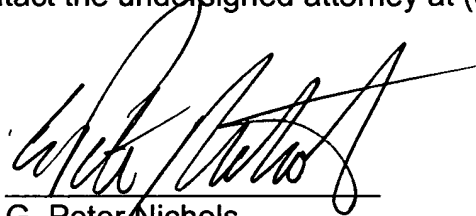
be further modified by suitable additives so that they can be used in all the types of liquid crystal display elements known to date. Pauluth then describes that is possible to add, for example, conductive salts, preferably ethyl-dimethyl-dodecylammonium 4-hexyloxybenzoate, tetrabutylammonium tetraphenylboranate or complex salts of crown ethers. This, however, does not teach or suggest the use of a proton source to impart proton conductivity into the organic-inorganic hybrid material, as required by the claim. Therefore, Pauluth cannot anticipate or render obvious the presently pending claims.

As for the suggestion that one of skill in the art would have been motivated to add a conductive salt to the composition of Pauluth would have been further motivated to substitute the disclosed salts of Pauluth with any the claimed proton sources (as allegedly taught in any of US 5,243,004; 5,174,867; or 4,835,076), Applicant cannot agree. As noted above, Pauluth seeks to provide an effective agent for producing a homotropic orientation of liquid crystal phases on surfaces. Pauluth does not seek to produce an electrically conductive material. On the other hand, each of US 5,243,004; 5,174,867; or 4,835,076 relate to forming electrically conductive materials. Thus, one of skill in the art would not have been motivated to make the substitution posited by the Examiner absent any hindsight motivation resulting from a review of Applicant's specification. Accordingly, Applicant respectfully requests withdrawal of the rejection and issuance of a Notice of Allowability.

USSN 10/672,190
Response to December 6, 2006 Office Action

The Examiner is requested to contact the undersigned attorney at (312) 321-4276 to resolve any remaining issues.

Date: March 2, 2007

A handwritten signature in black ink, appearing to read 'G. Peter Nichols', written over a horizontal line.

G. Peter Nichols
Registration No. 34,401
Attorney for Applicants

BRINKS HOFER GILSON & LIONE
P.O. Box 10395
Chicago, Illinois 60610
Telephone: (312) 321-4200